

MAR 10 2008

Application No. 10/646,818
Amendment dated March 10, 2008
After Final Office Action of December 11, 2007

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Docket No.: 69022(302753)

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claims 1-2 (canceled)

Claim 3 (currently amended) A method of correcting a suspension used to mount a magnetic head in a hard disk drive, comprising:

~~either one of or both~~

measuring load on the suspension and obtaining a load adjustment amount from the measured load; and

measuring an angle of the suspension and obtaining an angle adjustment amount from the measured angle;

defining, by using irradiation shapes in advance, that a laser beam is linearly irradiated onto either one of or both a load curve portion and an angle adjustment portion of the suspension in a laser beam irradiation area between a first point and an end point in approximately the same direction as a curving direction, preparing combinations of irradiation shapes in advance, and selecting an irradiation shape combination corresponding to ~~either one of or both~~ the load adjustment amount and the angle adjustment amount; and

irradiating a laser beam based on the selected irradiation shape combination to curve the thin plate between the first point and the end point, wherein the laser beam is polarized in XY directions with a galvano scanner mirror and is condensed with a long focal length lens.

Claim 4 (previously presented) A suspension correction method of adjusting an angle of the suspension by irradiating a laser beam onto a laser beam irradiation area for correcting an angle in plus or a laser beam irradiation area, between a first point and an end point, for correcting an angle in minus, based on an arrangement that

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the suspension is formed in a thin plate shape as a whole, the header is connected to an outrigger from one end of a head mounting portion via a spring, and the outrigger consists of a curve portion reaching both sides of the head mounting portion, and a linear portion that continues from the curve portion, and

an XY axis is set around the head mounting portion, an area I to an area IV are formed on the XY coordinates with the X axis as a gimbal longitudinal direction, and the laser beam irradiation area for correcting the angle in plus or the laser beam irradiation area for correcting the angle in minus is set in the area I and the area III or the area II and the area IV respectively,

wherein the laser beam is polarized in XY directions with a galvano scanner mirror and is condensed with a long focal length lens.

Claim 5 (previously presented) A suspension correction method of adjusting an angle of the suspension by irradiating a laser beam onto a laser beam irradiation area, between a first point and an end point for correcting a pitch angle in plus or a laser beam irradiation area for correcting a pitch angle in minus, based on an arrangement that

the suspension is formed in a thin plate shape as a whole, the header is connected to an outrigger from one end of a head mounting portion via a spring, and the outrigger consists of a curve portion reaching both sides of the head mounting portion, and a linear portion that continues from the curve portion, and

a boundary is provided in a direction orthogonal with a gimbal longitudinal direction around the spring, a first area is formed at the head mounting side, a second area is formed at the opposite side, the laser beam irradiation area for correcting the pitch angle in plus is set in the first area, and the laser beam irradiation area for correcting the pitch angle in minus is set in the second area,

wherein the laser beam is polarized in XY directions with a galvano scanner mirror and is condensed with a long focal length lens.

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Claim 6 (withdrawn) A thin plate that has at least one portion thereof formed in a curve and beam shape, and that has a laser beam irradiation trajectory linearly formed in approximately the same direction as the curve direction.

Claim 7 (withdrawn) An apparatus for correcting a suspension used to mount a magnetic head in a hard disk drive, comprising:

either one of or both

a load measuring unit that measures a load on the suspension; and

an angle measuring unit that measures an angle of the suspension;

a laser beam irradiating unit that irradiates a laser beam in approximately the same direction as a curving direction onto either one of or both load correction area and an angle correction area of the suspension, based on either one of or both the load measured by the load measuring unit and the angle measured by the angle measuring unit; and

a conveyer unit that fixes the suspension onto a conveyer stage, and conveys the suspension while positioning the suspension on either one of or both the load measuring unit and the angle measuring unit, and the laser beam irradiating unit.

Claim 8 (withdrawn) The suspension correction apparatus according to claim 7, wherein

the laser beam irradiating unit includes a laser marker, and the laser beam irradiating unit has a storage to store a laser beam irradiation shape according to the laser marker as an irradiation shape.

Claim 9 (withdrawn) A computer program that makes a computer executes:

either one of or both

defining, by using irradiation shapes in advance, that a laser beam is linearly irradiated onto any one part of a load curve portion of a suspension in approximately the same

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direction as a curving direction, and preparing combinations of irradiation shapes in advance;
and

defining, by using irradiation shapes in advance, that a laser beam is linearly irradiated onto any one part of an angle adjustment portion of a suspension in approximately the same direction as a curving direction, and preparing combinations of irradiation shapes in advance; and

a selecting step of selecting an irradiation shape combination corresponding to either one of or both the load adjustment amount and the angle adjustment amount obtained from a measured load of a head of a hard disk drive that presses against a disk in the hard disk drive, and using the selected combination to irradiate the laser beam.

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